

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for a first user to communicate in an Internet Protocol (IP) centric distributed network with a plurality of service layers providing a plurality of functions associated with each of the service layers, the method comprising:
 - accessing the network to establish a point of presence at an access management layer and a core portion of the network and to designate a default amount of bandwidth and a plurality of default setup parameters;
 - invoking a service through an application server on the network to establish an amount of network resources requested by the first user;
 - establishing a transport session to create and manage a connection from the first user to a destination address; and
 - accounting for a service session within the IP centric distributed network.
2. (Original) The method of claim 1 wherein the plurality of service layers includes a network service function layer.
3. (Original) The method of claim 1 wherein the plurality of service layers includes a local service function layer.
4. (Original) The method of claim 1 wherein the plurality of service layers includes an access service function layer.
5. (Original) The method of claim 3 further including distribution of client server functions within the local service layer.
6. (Original) The method of claim 1 further including distribution of client server functions within an access network.

7. (Original) The method of claim 1 further including distribution of client server functions within third party Internet application server.
8. (Original) The method of claim 1 wherein a visiting mobile host user establishes the accounting for a service session by going through a local service layer in the visiting network which establishes contact to a network service layer in a home network of the mobile host user.
9. (Original) The method of claim 1 wherein an authentication, authorization and accounting server in a network service layer is a server and wherein an authentication, authorization and accounting server in a local service layer is a client.
10. (Original) The method of claim 3 wherein the local service layer updates interim data and updates an authentication, authorization and accounting server in a network service layer.
11. (Original) The method of claim 4 wherein an usage accounting entry is created within the access network.
12. (Original) The method of claim 3 wherein an service accounting entry is created within the local service layer in an allied application server.
13. (Original) The method of claim 13 wherein the accounting actually accumulates on an usage accounting entry according to an accounting model indicator.
14. (Original) The method of claim 13 wherein the accounting actually accumulates on an service accounting entry according to an accounting model indicator.
15. (Original) The method of claim 1 further including an usage accounting entry at the access layer which accumulates data regardless of contents of an accounting model indicator.

16. (Original) The method of claim 1 further including invoking a specific usage accounting entry at an access network and a specific service accounting entry at an allied server application for each service invoked.
17. (Original) The method of claim 16 further including an accounting model indicator which describes a collection method and policy rules, and wherein the accounting model indicator is transferred to the access network and an allied application server at a local service layer.
18. (Currently Amended) The method of claim 1 wherein a service accounting entry has a one to one relationship with a ~~SDR~~ Session Detail Record (SDR).
19. (Original) The method of claim 1 wherein a service accounting entry can have a relationship with more than one usage accounting entry.
20. (Original) The method of claim 1 wherein a SDR can have a relationship with more than one usage accounting entry.
21. (Original) The method of claim 1 wherein a SDR can have a relationship with more than one service accounting entry.
22. (Original) The method of claim 1 wherein multiple services can be invoked in a single session.
23. (Original) The method of claim 1 wherein service is invoked through an allied application server at a local service layer, and wherein the allied application server seeks authorization from an authorization server based on an accounting policy within an accounting model indicator and wherein the authorization server sends details to the allied application server to create a service accounting entry.

24. (Original) The method of claim 1 further including creating an usage accounting entry at an access network wherein an allied application server sends instructions to the access network based on details within an accounting model indicator.

25. (Original) The method of claim 1 further including creating an service accounting entry at a local service layer wherein the local service layer sends instructions to the access network based on details within an accounting model indicator.

26. (Original) The method of claim 1 further including layer three messages communicate to an access network and communicates directly to the local service layer to establish an usage accounting entry.

27. (Original) The method of claim 1 wherein the accounting is duplicated at at least two of the following group: an access network, a local service layer, and a network service layer.

28. (Original) The method of claim 1 wherein the accounting includes collecting multiple SDRs according to an accounting session ID and sending the multiple SDRs to a billing server at a network service layer.

29. (Original) The method of claim 28 further including creating a bill combining all SDRs.

30. (Original) The method of claim 28 further including transferring the accounting session ID from a local service layer to another local service layer to facilitate combining of multiple SDRs.

31. (Original) The method of claim 28 further including transferring a context message with the accounting session ID and a profile that includes an accounting model indicator during a handoff from one local service layer to another.

32. (Currently Amended) A system for a first user to communicate in an Internet Protocol (IP) centric distributed network with a plurality of service layers providing a plurality of functions associated with each of the service layers, the system comprising:

a means for accessing the network to establish a point of presence at an access management layer and a core portion of the network and to designate a default amount of bandwidth and a plurality of default setup parameters;

an application server on the network that invokes a service to establish an amount of network resources requested by the first user;

a means for establishing a transport session to create and manage a connection from the first user to a destination address; and

a means for accounting for a service session within the IP centric distributed network.

33. (Original) The system of claim 32 wherein the plurality of service layers includes a network service function layer.

34. (Original) The system of claim 32 wherein the plurality of service layers includes a local service function layer.

35. (Original) The system of claim 32 wherein the plurality of service layers includes an access service function layer.

36. (Original) The system of claim 34 further including client server functions distributed within the local service layer.

37. (Original) The system of claim 32 further including client server functions distributed within an access network.

38. (Original) The system of claim 32 further including client server functions distributed within a third party Internet application server.

39. (Original) The system of claim 32 wherein a visiting mobile host user establishes the accounting for a service session by going through a local service layer in the visiting network which establishes contact to a network service layer in a home network of the mobile host user.
40. (Original) The system of claim 32 wherein an authentication, authorization and accounting server in a network service layer is a server and wherein an authentication, authorization and accounting server in a local service layer is a client.
41. (Original) The system of claim 34 wherein the local service layer updates interim data and updates an authentication, authorization and accounting server in a network service layer.
42. (Original) The system of claim 35 wherein an usage accounting entry is created within the access network.
43. (Original) The system of claim 34 wherein an service accounting entry is created within the local service layer in an allied application server.
44. (Original) The system of claim 41 wherein the accounting actually accumulates on an usage accounting entry according to an accounting model indicator.
45. (Original) The system of claim 41 wherein the accounting actually accumulates on an service accounting entry according to an accounting model indicator.
46. (Original) The system of claim 32 further including an usage accounting entry at the access layer which accumulates data regardless of contents of an accounting model indicator.

47. (Original) The system of claim 32 further including a specific usage accounting entry invoked at an access network and a specific service accounting entry invoked at an allied server application for each service invoked.
48. (Original) The system of claim 47 further including an accounting model indicator which describes a collection method and policy rules, and wherein the accounting model indicator is transferred to the access network and an allied application server at a local service layer.
49. (Original) The system of claim 32 wherein a service accounting entry has a one to one relationship with a SDR.
50. (Original) The system of claim 32 wherein a service accounting entry can have a relationship with more than one usage accounting entry.
51. (Currently Amended) The system of claim 32 wherein a ~~SDR~~ Session Detail Record (SDR) can have a relationship with more than one usage accounting entry.
52. (Original) The system of claim 32 wherein a SDR can have a relationship with more than one service accounting entry.
53. (Original) The system of claim 32 wherein multiple services can be invoked in a single session.
54. (Original) The system of claim 32 wherein service is invoked through an allied application server at a local service layer, and wherein the allied application server seeks authorization from an authorization server based on an accounting policy within an accounting model indicator and wherein the authorization server sends details to the allied application server to create a service accounting entry.

55. (Original) The system of claim 32 further including an usage accounting entry that is created at an access network wherein an allied application server sends instructions to the access network based on details within an accounting model indicator.

56. (Original) The system of claim 32 further including an service accounting entry that is created at a local service layer wherein the local service layer sends instructions to the access network based on details within an accounting model indicator.

57. (Original) The system of claim 32 further including layer three messages communicate to an access network and communicates directly to the local service layer to establish an usage accounting entry.

58. (Original) The system of claim 32 wherein the accounting is duplicated at at least two of the following group: an access network, a local service layer, and a network service layer.

59. (Original) The system of claim 32 wherein the accounting includes collecting multiple SDRs according to an accounting session ID and sending the multiple SDRs to a billing server at a network service layer.

60. (Original) The system of claim 59 further including a bill that combines all SDRs.

61. (Original) The system of claim 59 wherein the accounting session ID is transferred from a local service layer to another local service layer to facilitate combining of multiple SDRs.

62. (Original) The system of claim 59 further including a context message that is transferred with the accounting session ID and a profile that includes an accounting model indicator during a handoff from one local service layer to another.

63. (Currently Amended) A method for a first user to communicate in an Internet Protocol (IP) centric distributed network with a plurality of service layers including a network service function layer, a local service function layer, and an access service function layer providing a plurality of functions associated with each of the service layers, the system comprising:

accessing the network to establish a point of presence at an access management layer and a core portion of the network and to designate a default amount of bandwidth and a plurality of default setup parameters;

invoking a service through an application server on the network to establish an amount of network resources requested by the first user;

establishing a transport session to create and manage a connection from the first user to a destination address; and

accounting for a service session within the IP centric distributed network.

64. (Original) The method of claim 63 further including distribution of client server functions within the local service layer.

65. (Original) The method of claim 63 further including distribution of client server functions within an access network.

66. (Original) The method of claim 63 further including distribution of client server functions within a third party Internet application server.

67. (Original) The method of claim 63 wherein a visiting mobile host user establishes the accounting for a service session by going through a local service layer in the visiting network which establishes contact to a network service layer in a home network of the mobile host user.

68. (Original) The method of claim 63 wherein an authentication, authorization and accounting server in a network service layer is a server and wherein an authentication, authorization and accounting server in a local service layer is a client.

69. (Original) The method of claim 63 wherein the local service layer updates interim data and updates an authentication, authorization and accounting server in a network service layer.

70. (Original) The method of claim 63 wherein an usage accounting entry is created within the access network.

71. (Original) The method of claim 63 wherein an service accounting entry is created within the local service layer in an allied application server.

72. (Original) The method of claim 71 wherein the accounting actually accumulates on an usage accounting entry according to an accounting model indicator.

73. (Original) The method of claim 71 wherein the accounting actually accumulates on an service accounting entry according to an accounting model indicator.

74. (Original) The method of claim 63 further including an usage accounting entry at the access layer which accumulates data regardless of contents of an accounting model indicator.

75. (Original) The method of claim 63 further including invoking a specific usage accounting entry at an access network and a specific service accounting entry at an allied server application for each service invoked.

76. (Original) The method of claim 75 further including an accounting model indicator which describes a collection method and policy rules, and wherein the accounting model indicator is transferred to the access network and an allied application server at a local service layer.

77. (Currently Amended) The method of claim 63 wherein a service accounting entry has a one to one relationship with a ~~SDR~~ Session Detail Record (SDR).

78. (Original) The method of claim 63 wherein a service accounting entry can have a relationship with more than one usage accounting entry.
79. (Original) The method of claim 63 wherein a SDR can have a relationship with more than one usage accounting entry.
80. (Original) The method of claim 63 wherein a SDR can have a relationship with more than one service accounting entry.
81. (Original) The method of claim 63 wherein multiple services can be invoked in a single session.
82. (Original) The method of claim 63 wherein service is invoked through an allied application server at a local service layer, and wherein the allied application server seeks authorization from an authorization server based on an accounting policy within an accounting model indicator and wherein the authorization server sends details to the allied application server to create a service accounting entry.
83. (Original) The method of claim 63 further including creating an usage accounting entry at an access network wherein an allied application server sends instructions to the access network based on details within an accounting model indicator.
84. (Original) The method of claim 63 further including creating an service accounting entry at a local service layer wherein the local service layer sends instructions to the access network based on details within an accounting model indicator.

85. (Original) The method of claim 63 further including layer three messages communicate to an access network and communicates directly to the local service layer to establish an usage accounting entry.

86. (Original) The method of claim 63 wherein the accounting is duplicated at at least two of the following group: an access network, a local service layer, and a network service layer.

87. (Original) The method of claim 63 wherein the accounting includes collecting multiple SDRs according to an accounting session ID and sending the multiple SDRs to a billing server at a network service layer.

88. (Original) The method of claim 87 further including creating a bill combining all SDRs.

89. (Original) The method of claim 87 further including transferring the accounting session ID from a local service layer to another local service layer to facilitate combining of multiple SDRs.

90. (Original) The method of claim 87 further including transferring a context message with the accounting session ID and a profile that includes an accounting model indicator during a handoff from one local service layer to another.